10-23

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

~~yl~~ NATIONAL PARK

FILE NO. 143

MONTHLY REPORT

FOR

JANUARY - 1923.

YELLOWSTONE
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143-(3) January-1923

917.879

February 5, 1923.

Dear Sir:

The following is my report on, and operation of Yellowstone National Park for January 1923:

I. GENERAL CONDITIONS.

The road between Mammoth and Gardiner has been passable for automobiles during the entire month. Several heavy snowfalls occurred during the month, which made it necessary to run the snow plow down the road between Mammoth and Gardiner from one to two miles in order to keep the road open to freight and passenger vehicles. The Cooke City road is in much better condition than last year at this time, but this road as well as all the rest of the roads in the Park were closed to motor vehicles.

Weather

The weather has been unusually mild during the month with the exception of a moderate cold wave during the closing days. The precipitation during the month was somewhat deficient but there was an excessive depth of snow on the ground at the end of the month. The lowest temperature recorded in the Park during the month was 24° below zero at Riverside on January 30th, the lowest at Mammoth being 12° below on the same date. An unusually heavy snowfall occurred at the Bechler Station when 60 inches of snow fell in three days. The snowfall at the various stations in the Park up to January 31st was far below that of last year up to the same date.

The following records are quoted from the report for January of the Observor in charge of the local United States Weather Bureau at Mammoth Hot Springs, Park Headquarters:

Temperature: Monthly mean, 20.8°, is 3.2° above normal. Moderate temperature prevailed except during the last five days which were well below normal. Lowest temperature, 12° below zero, occurred on the 30th.

Precipitation: Total, 1.49 inches, is 0.75 inch below normal. First week stormy, and mostly unsettled weather thereafter.

Snowfall: Total 17.0 inches; normal 20.6 inches. While snow occurred on a greater number of days than usual, the amounts were generally light. The depth of snow on the ground at the end of the month was 21.0 inches, or nearly twice as much as the average for that date. Only twice in the past 20 years has a greater depth on the ground at the end of January been recorded.

Wind: Average hourly velocity, 9.5 miles, is nearly normal. Maximum velocity, 42 miles from the south on the 17th, has been equalled twice but not exceeded.

Sunshine: Percentage of possible 39; normal 38. There were 15 partly cloudy days and 16 cloudy, no clear days being recorded, which feature is unprecedented for January, and with one exception for all months of the year, dating back to 1904. However, the absence of clear days resulted in an excess of partly cloudy rather than cloudy days.

Snow Depths: On January 31st, rangers on stations reported the following snow depths:

Station	1922 inches	1923 inches
Mammoth	18	21
Norris	40	30
Riverside	38	37
Gallatin		24.5
Slough Creek		28
Bechler		62
Snake River	49	42
Thumb	45	
Lake	33	31
Upper Yellowstone	40	
Canyon Station	43	32
Tower Falls	26	13
Buffalo Ranch	26	12
Soda Butte Station	30	
Crevice	30	
Hellroaring	26	14
Sylvan Pass	30	30

Travel: At this time of the year park travel consists mostly of salesmen or people visiting the park on business matters and amount to but little in the season totals. A total of 12 entered the park. Attached is the Chief Ranger's travel report.

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DEPARTMENT OF THE INTERIOR.

NATIONAL PARK SERVICE—YELLOWSTONE NATIONAL PARK.

CHIEF RANGER'S MONTHLY TRAVEL REPORT, MONTH OF January, 1923

	NORTH.		WEST.		EAST.		SOUTH.		ALL TRAIL ENTRANCES.		SUMMARY.	
	Cars.	People.	Cars.	People.	Cars.	People.	Cars.	People.	Horses.	People.	Cars.	People.
Automobile permits issued			None									
Automobile permits issued (complimentary)												
Cars entering second time												
Motor-cycle permits issued												
Total												
Passengers in horse-drawn vehicles												
Passengers on horseback												
Passengers on bicycles												
Passengers on foot												
Total incoming passengers with private transportation		12										12
WITH HIRED TRANSPORTATION.												
Yellowstone Park Transportation Co		None										
Total incoming passengers with hired transportation												
TOTAL INCOMING PASSENGERS		12										12

Other Transportation

Total automobiles in public camping grounds	Total passengers Cooke City stage	SEASON TOTAL END OF LAST MONTH 479
Total automobile campers in public camping grounds	Total visitors Cave Falls—Bechler River Region	SEASON TOTAL TO DATE 491
Total campers, all classes		

Lawrence P. Hoskins

II. PERSONNEL:

On January 1st there were 68 on the payrolls and on January 31st there were 68. The following list shows the number of appointees of various classes serving during the month with a general statement of the kind of work in which they were engaged:

No.	Class	Kind of work performed
1	Superintendent	General administration and supervision of all activities in the park.
1	Asst. Supt.	Administration, purchasing, disbursing.
1	Asst. Supt.	Information, reports, etc.
2	Asst. Engineers	1 in charge of engineering work in park, 1 assisting.
7	Clerks	1 Financial Clerk; 1 Cost Accounting Clerk; 1 Personnel, File and Report Clerk; 1 Time and Payroll Clerk; 2 Stenographer-Typists on stenographic work, clippings, etc.; 1 Stenographer-Typist on orders, proposals and vouchers. (The last clerk listed resigned effective close of business January 31, 1923).
3	Electricians	Operated power plant regular shift, including Sundays, read meters, did necessary line work.
3	Foremen	1 in charge of Headquarters Corral; 1 repairing sprinkler tanks at Mammoth, 1 on construction.
1	Telegraph Operator	Sent and received all Government Western Union messages, operated one shift on telephone switchboard.
2	Telephone Switchboard operators.	Operated telephone switchboard daily shifts, including Sundays.
1	Master Mechanic	In charge of shops and repair to heavy road machinery.
1	Blacksmith	General blacksmith work, including shoeing of horses in shop, overhauling and repairing tools and equipment.

1	Master Painter	General shop work, including painting equipment and buildings.
6	Laborers	Teaming, freighting, assisting mechanics and miscellaneous work at headquarters.
1	Steward & Master of Transportation	In charge of all transportation and of storehouses.
1	Chief Buffalo Keeper	In charge of tame buffalo herd.
2	Asst. Buffalo Keepers	1 assisting Buffalo Keeper; 1 in charge of hay ranch operations at Slough Creek.
1	Buffalo Herder	Assisting Buffalo Keeper (L.W.O.P. for month of January).
1	Master Plumber	In charge of general plumbing and water and sewer systems.
1	Auto Mechanic	On duty at power plant (L.W.O.P. for month of January).
1	Machinist	Repairing equipment.
1	Carpenter	Repairing buildings at headquarters.
1	Chief Park Ranger	In charge of ranger force
1	Fish & Game Warden	In charge special observation and reports on wild animals. Trapping predatory animals.
1	First Asst. Chief Park Ranger	In charge of northern district
2	Assts. Chief Park Ranger	1 on duty at Lake District; 1 in charge of Western District.
12	Park Rangers	Patrolling park borders, protecting game, miscellaneous duties.
5	Temporary Rangers	Patrolling, miscellaneous duties.
7	WAE Park Rangers	In charge of stations.

Leaves of Absence

A. W. Burney, Asst. Engr., Jan. 2-6, 5 days
Earl S. Bauman, Park Ranger, Jan.2-3, 2 days.
Mrs. H. M. Hall, Stenog.-Typist, Jan. 9 (noon), 1/2 day.
Mrs. H. M. Hall, Stenog.-Typist, Jan.20-31, 10 days.
A. R. Edwin, Cost Clerk, (noon) Jan. 10, 1/2 day.
A. R. Edwin, Cost Clerk, Jan. 12 (noon)- 15, 2½ days.
J. D. Fraser, Machinist, Jan. 8 (noon)- 9, 1½ days.
H. M. McFarland, Foreman, Jan. 17-18, 2 days.
Joseph Joffe, Clerk, (noon) Jan. 15 (noon) 16, 1 day.
Sam T. Woodring, Chief Ranger, (noon) Jan. 15- (noon) 16, 1 day.
Wm. I. Davis, Asst. Engr., Jan. 17- (noon) Jan. 18, 1½ days.
W. J. O'Laughlin, Laborer, Jan. 17, 1 day.
James Dupuis, Park Ranger, Jan. 17-18, 2 days.
Berenice J. Finney, Clerk, (noon) Jan. 16, 1/2 day.
F. R. Marriott, Laborer, Jan. 21- (noon) 24, 2½ days.
Berenice J. Finney, Clerk, (noon) Jan. 26, 1/2 day.
Nathan E. Sandel, Tel. Operator, (noon) Jan. 27, 1/2 day.
C. D. Dale, Electrician, Jan. 27, 1 day.
A. R. Edwin, Clerk, Jan. 26 - (noon) 29, 2½ days.
C. E. Scoyen, Laborer, Jan. 27, 1 day.
A. C. D. Herman, Laborer, Jan. 27, 1 day.
Bert Stinnett, Master Mechanic, (noon) Jan. 27, 1/2 day.
C. R. Stinnett, Blacksmith, (noon) Jan. 27, 1/2 day.
P. E. Bilkert, Financial Clerk, Jan. 27, 1 day.
Nellie Roach, Tel. & Switchboard Operator, (noon) Jan. 2, 1/2 day.

Sick Leave

Fred Finch, Park Ranger, Jan. 2-4, inclusive, 3 days.

Promotions

Horace M. Albright, Superintendent of Yellowstone National Park, promoted from $4,000.00 per annum and quarters to $4,250 per annum and quarters, and appointed Superintendent of Yellowstone National Park and Field Assistant to the Director, effective January 1, 1923.

Resignations

Mrs. Helen M. Hall, Stenographer-Typist, at $1,200.00 per annum, and quarters, plus increase of compensation, resigned effective at close of business January 31, 1923.

Miss Carrie C. Haunesser, Stenographer-Typist, at $1,320 per annum, and quarters, plus increase of compensation, resigned effective January 1, 1923.

Furloughs

Harry R. Marshall, Auto Mechanic, $1320 per annum, plus increase of compensation and quarters, furloughed October 16, 1922 to April 15, 1923, inclusive.

Edmund J. McKeon, Auto Mechanic, $1320 per annum, plus increase of compensation and quarters, furloughed Nov. 1, 1922 to April 30, 1923, inclusive.

Charles W. Enochs, Foreman, $1800 per annum, plus increase of compensation and quarters, furloughed October 24, 1922, to April 23, 1923, inclusive.

John H. Tuttle, Asst. Engineer, $175 per month, plus increase of compensation and quarters, furloughed September 19, 1922, to March 18, 1923, inclusive.

William H. Riley, Auto Mechanic, $120 per month, plus increase of compensation and quarters, furloughed January 1, 1923 to January 31, 1923, inclusive.

Anton Koncilya, Buffalo Herder, $80 per month, plus increase of compensation and quarters, furloughed January 1, 1923 to January 31, 1923, inclusive.

In addition to the regular employees listed above under appointment, the following were employed temporarily by the day:

	Jan. 1st	Jan. 31st
2-horse teamsters	1	1
Laborers	1	1
Plumbers	1	1
Carpenters	1	1
Appointees	64	64
Total on Payroll	68	68

III. WORK COMPLETED:

(a) Construction of Physical Improvements:

No outside work was done by the engineering department, while the office work consisted of working up notes on surveys made last fall and making general plans for the coming season.

(c) Miscellaneous Improvement Work:

The Steward and Master of Transportation reports his department as having worked for ten days on cutting, hauling and storing ice. The balance of the month was spent preparing memorandum receipts for all Government property.

The Master Painter painted the walls and woodwork at Dr. Wolfe's quarters, kalsomined the back hall at Bert Stinnett's quarters, painted the pantry at the Community House and papered two rooms at Harry McFarland's quarters during January. The balance of the time was spent on sign work.

The Master Plumber remodelled the bathrooms in Charlie Stinnett's and William Riley's quarters and overhauled the steam plant in the Community House. The heating plant in the Bachelor's Building was completed. Maintenance work was done on the sewerage and water systems.

The Master Mechanic reports that the following trucks were completely overhauled: Signal No. 9 and Reo No. 15. Quad No. 19 and Dodge No. 14 were partly overhauled. General repairs were made to the shop and shop equipment.

The Blacksmiths overhauled five graders and the big air compressor. They worked on ice cutting for six days. Small equipment, such as shovels, picks, axes and mattocks were repaired.

The Carpenters completed the ceiling in the carpenter shop, did a few odd jobs in the office and worked on new quarters.

Buildings and Corrals: 228 tons of ice were cut during the month at a cost of $1.48 per ton. One man tended furnaces and one man hauled coal, ice, etc., and took care of the stables and corrals.

The Acting Chief Electrician reports that the office building was rewired and also the McFarland quarters. The kitchen in Bert Stinnett's quarters was rewired. Wiring was begun in the new quarters next to Marriott's.

The Power Plant was run constantly, with the results shown in comparison for January 1922, as follows:

	1922	1923
Total current generated, in KWH	20,280	29,390
Of this, sold to public utilities at 5¢ per KWH	1,242.4	1,313
Consumed for street lighting	3,060	2,177

	1922	1923
Balance, consumed in Government buildings, for power and lighting, lost on lines in transit	15,977.6	25,900
Peak load during month in KWH	60	62

The ice for the public utilities in the Park was cut, hauled and stored by R. H. Young, of Gardiner, Montana, and his crew.

The complete physical inventory taken of Government materials in the various departments, as of January 1, 1923, resulted as follows:

DEPARTMENT	SECTION	SECTION TOTAL	DEPARTMENT TOTAL	GRAND TOTAL
STOREHOUSE	Provisions, etc.	$ 3,143.04		
	Supplies-Materials	37,664.86	$ 40,807.90	
PLUMBING	Supplies-Materials	10,191.17		
	Army Range Parts	408.35	10,599.52	
ELECTRICAL	Supplies-Materials		4,908.35	
PAINTING	Supplies-Materials		3,134.67	
	Blacksmith	2,484.54		
	Motorcycle (parts)	383.15		
SHOPS	Garage	2,156.47		
	Grader (parts)	512.86		
	Gravel Loader (parts)	236.45	5,773.47	
STABLES	Supplies-Materials		1,781.28	$67,005.19

The above does not include tools, etc.

The Telephone and Switchboard Office was open daily from 7:30 A. M. to 8:45 P. M.

Switchboard Calls

On Government Local Lines	3,288
On Hotel Company Lines	174
On Long Distance Connections	54
Total	3,516

Telegrams

Government Sent	71
Commercial Sent	26
Total	97

Government Received.....	38
Commercial Received.....	21
Total.....	59

Office Force

The office force was busy with the usual routine work which includes orders, payment of vouchers, preparation of accounts, reports, general correspondence, etc. Work on the newspaper clippings and on the photograph album was continued whenever time permitted. 689 pieces of official mail were received and 723 were sent out during the month.

Ranger Force

Skis and snowshoes are now the principal means of transportation for rangers in the Park, with the exception of the north line, where horses are used. Winter routine is now carried out at all park stations. Owing to the thaw which occurred during the early part of the month, skiing conditions were rather unfavorable during the remainder of the month.

No special patrols of importance were made during the month but the usual patrols were made. A patrol was made by Rangers Frazier and C. Anderson from Riverside to the Upper Basin and Fountain in order to shovel snow from the roofs of the various buildings.

All telephone lines have been kept in operation the greater part of the month. The Snake River line was out for a few days, as was the Sylvan Pass line, but every telephone line in the Park was in operation at the end of the month.

Two more elk are known to have been killed outside of the Park near Jardine.

Elk and buffalo were trapped and crated during the month and shipped as follows:

January 6, 1923. Two female buffalo to Mr. G. W. Ruetenek, Director of Parks and Public Property, Cleveland, Ohio.

January 21, 1923. One male and one female elk to Mr. A. P. Simmons, Exalted Ruler, Utica Lodge #33, B.P.O.E., Utica, N. Y.

January 26, 1923. One male and one female elk to Houston Lodge #151, B.P.O.E., Houston, Texas. It was later learned that the cow elk was killed in transit, having broken its neck.

January 29, 1923. Two female elk to Dr. W. B. Bizzell, Pres., Agricultural and Mechanical College of Texas, College Station, Tex.

On January 27, 1923 the following skins were advertised to be sold on February 10, 1923 to the highest bidder:

2	Wolf Skins	(poor condition)
3	Coyote Skins,	extra large, #1
10	" "	, medium, #1
12	" "	, large, #1

Yellowstone Lake did not freeze over until some time between January 15th and 20th, which is the latest date on record for the Lake to freeze over.

Numerous applications were received daily during the month for the temporary ranger positions for the coming season. On January 31st a tentative list of the 1923 temporary ranger force was compiled and submitted to Mr. Albright in Washington.

IV. WORK IN PROGRESS.

(a) Construction of Physical Improvements:

Yellowstone Park Camps Company: There have been seven men working at the Camps Company headquarters at Mammoth Camp. Five of these men have been busy turning out furniture for the various camps, and especially for the new main building at Mammoth. The other two men have been engaged in overhauling and repairing the trucks and automobiles belonging to the Camps Company.

VII. POLICIES.

There were no changes in policy during the month.

VIII. COST OF OPERATION.

The cost of operation of Yellowstone National Park will be shown on the Cost Accounting Report for the month of January, which report will be forwarded shortly.

IX. OTHER MATTERS OF INTEREST

Wild Animals

Game Conditions: The game conditions in the Park during the month were very favorable but some of the elk and deer are now beginning to show the effects of the winter, although it is not believed that it

will be necessary to do any feeding this year around Gardiner unless there occurs unusually cold weather during the month of February. There has been found but one winter kill up-to-date and one elk calf was drowned in the Gardiner River. One antelope was found killed by coyotes.

Elk: There are 38 elk at Norris Geyser Basin, 30 on the Madison and elk signs have been seen in numerous localities by the rangers making their patrols. From 40 to 100 elk have been regularly feeding on the parade grounds at Mammoth and a number of elk are scattered throughout the hills between Mammoth and Gardiner. There are also a number of elk regularly seen on Capitol Hill.

Three elk were killed during the month of January on the fence at Gardiner.

The entire Gallatin herd is on the preserve at the present time and Forest Ranger Callahan estimates from 2500 to 3000 elk in this herd. The grazing conditions on the preserve are excellent for the Gallatin herd.

There is a large band of bulls ranging on Sepulchre and on the Blacktail country.

On January 30th and 31st there was a band of well over a hundred head of elk down on Hoppe's Ranch and on the properties of Sherman and Reese. 108 of these elk were driven back into the Park and it was necessary to let the fence down, which had been raised for the antelope to pass backward and forward. As soon as the weather moderates and the elk start to range back again the fence will be raised for the antelope again.

It was necessary to feed elk at Slough Creek and at Yancoys during the month.

Antelope: Several attempts have been made to count the antelope this month but it has been found very disagreeable to get an accurate count. 109 is the most that has been known to have been out of the Park at one time. 234 is the largest number that has been obtained in any count.

Most of the antelope have ranged altogether on Sherman's and ~~Stohell's~~ Stahl's places, just outside of the Park.

One antelope was known to have been killed by coyotes along the fence west of Gardiner.

Some of the antelope remaining in the Park are on the east side of the Gardiner, ranging above the target range on Mt. Everts, and the remainder of the bunch are ranging between Gardiner and the Chinese Gardens on the west side of the Gardiner.

Deer: All the deer throughout the Park are in excellent condition with the exception of the Mammoth herd, which depend mainly on the backdoors for support and refuse to rustle. Some of these are getting rather thin and it may be necessary to feed them hay a little later on.

The first shedding of horns by the deer was observed on January 4th and the lone whitetail buck shed his first horn on January 24th and his second horn on January 26th.

One deer was killed on the Gardiner fence during the month, and three were killed by coyotes. There were no winter kills found among the deer.

Mountain Sheep: Ranger Dupuis counted 96 head of mountain sheep at Junction Butte and Tower Falls. There are 17 sheep between Mammoth and Gardiner and 27 at Hellroaring. All sheep appear to be in excellent condition.

A very large ram was found dead near the mouth of Bear Creek. It is believed to have died from old age.

Wild Buffalo: Rangers from the Lake Station saw a total of 12 wild buffalo between the Lake and Pelican Creek. 6 wild buffalo were observed on West Creek Meadow. No effort has been made to obtain an accurate count on the wild buffalo during the month.

Tame Buffalo Herd: Conditions at the Buffalo F arm have been excellent during the month. No signs of any disease have as yet been observed. Dr. Neil Plank, of the Bureau of Animal Industry, Department of Agriculture, together with Chief Ranger Woodring made a trip to the Buffalo Farm during the early part of the month to castrate the bulls and ~~ween~~ the calves in the tame herd.

A total of 65 tons of hay was fed at the Buffalo Farm.

Four bulls were killed during the month, three outlaws and one cripple.

Moose:- Considerable moose have been seen around Tower Falls, Upper Yellowstone, Snake River and the Gallatin. An unusually large herd of 12 head were seen near Tower Falls by Ranger Dupuis.

Predatory Animals: A total of 42 coyotes were killed during the month, of which Anderson killed 16, Lake 6, Snake River 1, Hellroaring 2, Burkett 4, Riverside 7, Dewing 4, Buffalo Farm 2.

No report has been received from Ranger McBride.

Feeding Game: Approximately 1050 elk were fed at Slough Creek during the month. About 65 tons of hay were fed at both the Upper and Lower Ranches.

Hay fed at Slough Creek.....	65	tons
Hay fed at Buffalo Farm.....	65	tons
Hay fed at Yanceys' Ranch.....	4	tons
Total.....	134	tons

Sickness and Medical Attention

Dr. J. M. Wolfe, National Park Service Physician, reports 20 resident calls and 23 office calls for the month of January.

Accidents and Casualties

Assistant Chief Park Ranger Joseph Douglas, while enroute from the Thumb to the Lake, fell into an air hole in Yellowstone Lake and was given a good wetting, but no serious damage resulted. He was carrying his skis at the time and managed to grab hold of the ice when he started to fall through.

Religious Services

There were no religious services held at the chapel during the month of January.

Motion Pictures

Three members of the firm of Raths Mills & Bell, Inc., St. Paul, Minn. were in the Park during the early part of the month taking pictures of game and winter scenes. These pictures were taken for the use of the Northern Pacific and Burlington Railroads in advertising the Park. Some very fine scenes were obtained at the Buffalo Farm and around Tower Falls and some very unusual deer pictures were secured around Mammoth, as well as skiing pictures.

Amusements

The members of the community have enjoyed themselves during the month by skiing, coasting and tobogganing, and the usual weekly movies have been held, followed by short dances twice during the month.

School

The following is the report of the school for January, under the direction of Mrs. Marriott, teacher:

	Boys	Girls	Total
No. of pupils enrolled.....	9	8	17
No. of days taught.....			19
No. days attendance.....	170-3/4	151-1/2	322-1/4
No. cases tardiness.....	0	1	1

IX. RECEIPTS AND REMITTANCES

Certified check #513, dated Jan. 9, 1923, drawn by H. W. Child on the National Bank of Montana, Helena, Montana, to the Director, National Park Service, amount.....$ 90.53

Certified check #511, dated Jan. 9, 1923, drawn by H. W. Child on the National Bank of Montana, Helena, Montana, to the Director, National Park Service, amount..... 52.76

Certified check #928, dated Jan. 9, 1923, drawn by H. W. Child on the National Bank of Montana, Helena, Montana, to the Director, National Park Service, amount..... 11.05

Certified check #1358, dated Jan. 5, 1923, drawn by Howard H. Hays on the Northwestern National Bank, Livingston, Montana, to the Director, National Park Service, amount..... 26.55

Postal Money Order #51160, dated Jan. 2, 1923, drawn by the Postmaster of Yellowstone Park, on the Postmaster at Washington, D.C., amount..... .65

Total.....$ 181.54

Sincerely yours,

LEROY HILL
Acting Superintendent

The Director,
National Park Service,
Washington, D. C.

BJF-STJ/JJ

Address correspondence to
"Official in Charge"

U. S. DEPARTMENT OF AGRICULTURE

WEATHER BUREAU

Yellowstone Park, Wyo.

* copy this & insert after write up on weather

WEATHER CONDITIONS--MAMMOTH HOT SPRINGS.

J A N U A R Y , 1923.

Month unusually mild except for a moderate cold wave during the closing days. Precipitation somewhat deficient, but excessive depth of snow on the ground at end of month.

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nd: Average hourly velocity, 9.5 miles, is nearly normal. Maximum velocity, 42 miles from the south on the 17th, has been equalled twice but not exceeded.

nshine: Percentage of possible 39; normal 38. There were 15 partly cloudy days and 16 cloudy, no clear days being recorded, which feature is unprecedented for January, and with one exception for all months of the year, dating back to 1904. However, the absence of clear days resulted in an excess of partly cloudy rather than cloudy days.

E. H. Fletcher,
Observer.

Yellowstone Park, Wyo.

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E. H. Fletcher,
Observer.

Form No. 1030—Met'l.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

MONTHLY METEOROLOGICAL SUMMARY.

Station, YELLOWSTONE PARK, WYO. *; month,* JANUARY, 1923. *, 19* .

Date.	Temperature. (Degrees Fahrenheit.) Max.	Min.	Mean.	Precipitation. (In inches and hundredths.)	Character of day.	Sunshine, percentage.
1	25	18	22	.03	Cloudy	0
2	23	12	18	.06	Cloudy	0
3	32	14	23	.02	PtCldy	38
4	28	16	22	.06	Cloudy	10
5	29	20	24	.03	Cloudy	0
6	40	28	34	.09	Cloudy	0
7	38	29	34	.04	Cloudy	19
8	35	19	27	0	PtCldy	78
9	37	25	31	0	Cloudy	8
10	37	26	32	T	PtCldy	71
11	29	8	18	.09	PtCldy	59
12	21	4	12	0	Cloudy	9
13	18	-2	8	.03	PtCldy	51
14	25	16	20	.04	PtCldy	78
15	32	21	26	.01	Cloudy	17
16	35	20	28	0	Cloudy	20
17	37	22	30	.29	Cloudy	0
18	30	19	24	.02	PtCldy	67
19	35	18	26	T	PtCldy	41
20	30	10	20	0	PtCldy	69
21	31	9	20	0	PtCldy	68
22	38	11	24	0	PtCldy	83
23	37	16	26	.28	PtCldy	69
24	27	16	22	.16	Cloudy	0
25	32	19	26	T	PtCldy	59
26	24	14	19	0	Cloudy	35
27	16	3	10	.06	Cloudy	11
28	20	3	12	.16	Cloudy	36
29	9	-11	-1	.01	PtCldy	62
30	21	-12	4	.01	PtCldy	80
31	13	-6	4	T	Cloudy	41
			Total.			
Mean	28.5	13.1	20.8	1.49		39

ATMOSPHERIC PRESSURE.

(Reduced to sea level; inches and hundredths.)

Mean 30.08; highest 30.61, date 15

lowest 29.58, date 6

TEMPERATURE.

Highest 40, date 6; lowest -12, date 30

Greatest daily range 33, date 30

Least daily range 7, date 1

Mean for this month in

1871	80	89	15	98	15	07	15	16	7
1872	81	90	10	99	20	08	20	17	11
1873	82	91	20	00	22	09	21	18	16
1874	83	92	16	01	21	10	16	19	22
1875	84	93	17	02	17	11	21	20	23
1876	85	94	17	03	23	12	20	21	21
1877	86	95	19	04	19	13	14	22	12
1878	87	19	96	26	05	20	14	25	23	21
1879	88	11	97	16	06	22	15	19	24	

Normal for this month 17.6

Absolute maximum for this month for 37 years 49

Absolute minimum for this month for 37 years -41

Average daily excess (+) or deficiency (−) of this month as compared with the normal +3.2

Accumulated excess (+) or deficiency (−) since January 1 +100

Average daily excess (+) or deficiency (−) since January 1 +3.2

PRECIPITATION.

Total this month 1.49; snowfall 17.0 (normal 20.6)

Greatest precipitation in 24 hours 0.29, date 17

Snow on the ground at end of month 21.0

Total precipitation this month in

1871	80	89	1.05	98	0.31	07	2.44	16	2.60
1872	81	90	6.70	99	4.21	08	0.85	17	0.69
1873	82	91	0.48	00	0.90	09	1.61	18	1.98
1874	83	92	1.40	01	2.26	10	1.90	19	0.88
1875	84	93	1.82	02	0.96	11	4.56	20	0.28
1876	85	94	1.82	03	0.60	12	0.89	21	1.49
1877	86	95	4.76	04	0.93	13	2.60	22	0.74
1878	87	7.70	96	2.21	05	0.25	14	0.97	23	1.49
1879	88	3.93	97	1.12	06	1.48	15	0.41	24	

Normal for this month 2.24

Excess (+) or deficiency (−) of this month as compared with the normal -0.75

Accumulated excess (+) or deficiency (−) since January 1 -0.75

MEAN RELATIVE HUMIDITY (Percentage).

6 a. m., 77; Noon p. m., 61; 6 p. m., 69

WIND.

Prevailing direction South; total movement 7077 miles; average hourly velocity 9.5; maximum velocity (for five minutes) 42 miles per hour, from S on 17

WEATHER.

Number of days, clear 0; partly cloudy 15; cloudy 16; on which .01 inch, or more, of precipitation occurred 19

MISCELLANEOUS PHENOMENA (dates of).

Auroras 0; halos: solar 31, lunar 4, 28

Hail 0; sleet 0; fog 0

Thunderstorms 0

*Frost: light ---; heavy ---; killing ---

NOTE.—"T" indicates trace of precipitation.

In the autumn frosts are not recorded after the occurrence of "killing," except in Florida and along the immediate coast of the Gulf of Mexico.

8—1650

E. H. Fletcher, Observer.

Weather Bureau.

Form No. 1030—Met'l.

U. S. DEPARTMENT OF AGRICULTURE.

WEATHER BUREAU.

MONTHLY

METEOROLOGICAL SUMMARY.

STATION

Yellowstone Park, Wyo.

MONTH

JAN 1923

, *19*

1650